

Message Text

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ACTION FBO-05

INFO OCT-01 EUR-12 ISO-00 A-01 SY-04 OCE-00 CCO-00 OCL-00

SSO-00 /023 W

----- 105841

O R 141315Z NOV 74

FM AMCONSUL LENINGRAD

TO SECSTATE WASHDC IMMEDIATE 0852

INFO AMEMBASSY MOSCOW

AMEMBASSY BONN

AMEMBASSY LONDON

AMCONSUL FRANKFURT

C O N F I D E N T I A L SECTION 1 OF 2 LENINGRAD 1097

IN11652XGDS-3

TAGS: ABLD, ACOM, ASEC, UR

SUBJ: POWER PROBLEMS AND POST COMMUNICATIONSUREA

REF: STATE 245484

MOSCOW FOR RSO; BONN FOR RCO; LONDON FOR ATO; FRANKFURT FOR RTC, RSS

1. BEGIN SUMMARY. ONLY ONE THREE-PHASE CIRCUIT FROM PANELS

(PANEL #4) IS INVOLVED

IN CURRENT CRISIS. NO FAILURES OBSERVED

RESULTING FROM SHODDY MATERIAL OR WORKMANSHIP. FAILURE DEFINITELY

DUE TO CONGEN EXCEEDING DESIGN CURRENT RATINGS OF POWER PANEL BY

AT LEAST 80 PER CENT. ADDITIONAL INFORMATION FROM SOVIET ELECTRICAL

SPECIFICATIONS AND MEASUREMENTS TAKEN BY POST PROVIDED. REQUEST

POWER SPECIALIST BE PROVIDED TO STUDY SITUATION AND ASSIST IN

DETERMINING POWER SOLUTION. THIS ACTION STRONGLY ENDORSED BY

FOREIGN SERVICE INSPECTORS. END SUMMARY.

2. THERE ARE TWO TRANSFORMERS PHYSICALLY LOCATED OUTSIDE PREMISES.

FOUR CABLES ARE PROVIDED FROM SUBSTATION TO AN INTERMEDIATE

SUBSTATION AND LAID IN ACCORDANCE WITH DIRECTIONS OF THE CENTRAL

DISTRICT LENINGRAD CABLE SYSTEM TO SIX PANELS PLUS A CHANGE

OVER PANEL LOCATED IN WEST WING COMMERCIAL PSWER ROOM.

EACH CABLE HAS THREE CONDUCTORS OF 120 SQUARE MILLIMETERS CROSS

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SECTIONAL AREA (FROM SOVIMZ TECHNICAL SPECIFICATIONS--NOT PER-

SONALLX MEASURED).

3. ONLY ONE THREE-PHASE CIRCUIT FROM PANELS (PANEL -#4) IS INVOLVED IN CURRENT CRISIS.

4. MANDATORY WORK REQUIRES UPGRADING CURRENT CARRYING CAPACITY OF PANEL #4, REQUIRING REPLACEMENT OF CURRENT METERING TRANSFORMERS AND INTER PANEL CONNECTING CABLES, OR POSSIBLE SOLUTION DISCUSSED IN SUBPARAGRAPHS E, F, AND G, THIS MESSAGE, AFTER POWER REQUIREMENTS HAVE BEEN DETERMINED AND AGREED TO BY SOVIETS.

5. WORK BY NON-SOVIETS NOT AUTHORIZED BY SOVIETS, ALSO BECAUSE OF REQUIRED KNOWLEDGE OF SOVIET EQUIPMENT AND STANDARDS.

6. ELECTRICAL FAILURES DEFINITELY DUE TO CONGEN EXCEEDING DESIGN CURRENT RATINGS OF POWER PANEL BY AT LEAST 80 PER CENT. NO FAILURES OBSERVED RESULTING FROM SHODDY MATERIAL OR WORKMANSHIP. SOVIETS ARE NOT RPT NOT AT FAULT. THEY AGREED TO PROVIDE 350 KVA (90 AMP PER PHASE UNITY POWER FACTOR).

7. ABOVE AND FOLLOWING ASSESSMENT WAS DERIVED FROM PARTIAL TRANSLATION OF "PLAN OF LENZHILPROYEKT," DATED OCTOBER 23, 1972 (TECHNICAL SPECIFICATIONS FOR AMCONGEN LENINGRAD), AND INSPECTION OF POWER PANELS. THIS REVIEW AND ANALYSIS WAS CONDUCTED BY CHIEF, DIVISION OF TECHNICAL SERVICES, A/SY/T, WASHINGTON; TSO, MOSCOW; AND RSO, LENINGRAD, DURING THEIR CONSULTATION VISIT HERE.

A. FOUR HUNDRED AMPS PER PHASE APPEARS TO BE AVAILABLE FROM TWO TRANSFORMERS. ACCORDING TO TECHNICAL SPECS, CABLES FROM TRANSFORMERS TO PANELS SHOULD BE RATED AT 360 AMPS PER PHASE. SOVIETS BUILT POWER PANELS ACCORDING TO SPECIFICATIONS IN WHICH THEY AGREED TO PROVIDE 350 KVA (90 AMP PER PHASE UNITY POWER FACTOR).

B. MEASUREMENTS (ALGEBRAIC NOT VECTOR) TAKEN AT COMMERCIAL POWER ROOM IN WEST WING OF ALL CURRENTS BEING DRAWN FROM TWO TRANSFORMERS ON RED, GREEN AND YELLOW PHASES OF SIX POWER PANELS RESULTED IN FOLLOWING GRAND TOTAL READING DURING LOW, 1800 HOURS, NOVEMBER 8; HIGH, 1145 HOURS, NOVEMBER 11; AND AVERAGE, 1745 HOURS, NOVEMBER 11, POWER CONSUMPTION PERIODS:

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	RED	GREEN	YELLOW
1)	112	165	82 AMPS
2)	142	198	131 AMPS (HIGH POWER CONSUMPTION PERIOD WITH REDUCED POWER ON 4TH, 5TH AND 6TH FLOORS)
3)	118	184	104 AMPS

C. ASSUMING EACH TRANSFORMER SUPPLIES TWO CABLES TO ONE BANK OF

THREE PANELS (PANELS 6, 3 AND 1, LOCATED ON NORTH SIDE OF POWER ROOM, AND PANELS 2, 4, AND 5, LOCATED ON SOUTH SIDE) FOLLOWING IS BREAK DOWN OF ABOVE GRAND TOTALS:

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INFO OCT-01 EUR-12 ISO-00 A-01 SY-04 OCE-00 CCO-00 OCL-00

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INFO AMEMBASSY MOSCOW

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AMCONSUL FRANKFURT

C O N F I D E N T I A L SECTION 2 OF 2 LENINGRAD 1097

	RED	GREEN	YELLOS
NORTH SIDE			
PANEL #6	0	0	0 AMPS
PANEL #3	28	22	18
PANEL #1	22	14	22 AMPS
PANEL #6	1	4	6 AMPS
PANEL #3	35	39	31 AMPS
PANEL #1	23	10	19 AMPS
PANEL #6	1	11	12 AMPS
PANEL #3	30	26	18 AMPS
PANEL #1	17	8	18 AMPS
SOUTH SIDE			
PANEL #2	15	15	12 AMPS
PANEL #4	45	110	30 AMPS
PANEL #5	2	4	0 AMPS
PANEL #2	11	12	13 AMPS
PANEL #4	70	130	60 AMPS
PANEL #5	2	3	2 AMPS

PANEL #2 10 14 8 AMPS
PANEL #4 55 120 50 AMPS
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PANEL #5 5 5 8 AMPS

D. IT APPEARS THAT THERE IS ADEQUATE CAPACITY AVAILABLE AT THE PANELS PROVIDED IT IS PROPERLY DISTRIBUTED AND POWER PANELS ARE PROPERLY GAUGED IN RATING, PARTICULARLY PANEL #4 FOR THE 4TH, 5TH, AND 6TH FLOORS.

E. DURING FURTHER EXAMINATION OF PANELS ON NOVEMBER 13, IT WAS NOTED THAT PANELS 2, 4, AND 5 HAVE DIFFERENT CURRENT RATED CAPACITIES. PANEL 2, ACCORDING TO SOVIET SPECS IS RATED AT 100 AMPS AND CABLE CROSS SECTIONAL AREA IS TAGGED AS 3 X 120 AND 1 X 70 SQUARE MILLIMETERS. PANEL 4 (WHICH SUPPLYING POWER TO 4TH, 5TH, AND 5TH FLOOR) IS RATED AT 75 AMPS AND CABLE CROSS SECTIONAL ARE A IS TAGGED AS 3 X 70 AND 1 X 35 SQUARE MILLIMETERS. PANEL 5 IS RATED AT 150 AMPS AND CABLE CROSS SECTIONAL AREA IS TAGGED AS 3 X 120 AND 1 X 70 SQUARE MILLIMETERS.

F. AS INDICATED IN BREAKDOWN OF CURRENT CONSUMPTION FIGURES ABOVE, DURING HIGH CURRENT CONSUMPTION PERIODS, PANEL 2 DRAWS ONLY 11, 12, AND 13 AMPS PER PHASE. PANEL 4 DRAWS 70, 130 AND 60 AMPS PER PHASE, WHILE PANEL 5 ONLY DRAWS 2, 3, AND 2 AMPS PER PHASE.

G. IT APPEARS THAT POWER FOR THE 4TH, 5TH, AND 6TH FLOORS WAS CONNECTED TT WRONG PANEL (PANEL #4). A POSSIBLE INTERIM SOLUTION WOULD BE TO SWITCH POWER REQUIREMENTS FOR 4TH, 5TH, 6TH FLOOR TO PANE L #5.

7. ACTION REQUESTED: AS NOTED IN Leningrad 1055, AN IMMEDIATE AND SUITABLE LONG TERM SOLUTION TO POWER PROBLEM IS REQUIRED. REQUEST POWER SPECIALIST BE PROVIDED TO STUDY SITUATION AND ASSIST IN DETERMINING PROPER SOLUTION. THIS WILL REQUIRE ON SITE STUDY OF SOVIET PLANS, SPECIFICATIONS AND POWER REQUIREMENT, ACCURATE DETERMINATION OF PRESENT AND ANTICIPATED POWER CONSUMPTION REQUIREMENTS, AND ASSISTANCE IN BLANCING ALL PHASES. THIS ACTION STRONGLY ENDORSED BY FOREIGN SERVICE INSPECTORS WHO RECENTLY DEPARTED POST. REQUIREMENTS FOR NECESSARY UPGRADING WILL BE SUBMITTED TO SOVIETS SOON AS POSSIBLE UPON COMPLETION OF STUDY.

8. TECHNICAL SPECIFICATIONS FOR AMCONGEN Leningrad, REFERRED
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TO ABOVE, ARE BEING TRANSLATED AND WILL BE FORWARDED AS SOON AS
POSSIBLE.
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Message Attributes

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